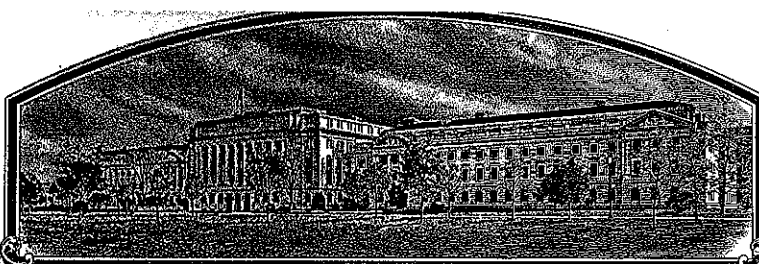


No.

200600053



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Syngenta Seeds, Inc.*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN, GARDEN

'HAYDEN'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this ninth day of April, in the year of our Lord one thousand nine hundred and two thousand and seven.

Attest:

*Commissioner*

*Plant Variety Protection Office  
Agricultural Marketing Service*

*Secretary of Agriculture*

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

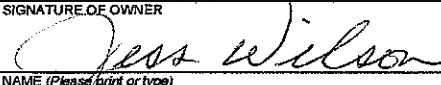
Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>Syngenta Seeds, Inc.</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME <b>Hayden</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <b>600 N. Armstrong Place Boise, ID 83704</b>		5. TELEPHONE (include area code) <b>(208) 322-7272</b>		<b>FOR OFFICIAL USE ONLY</b> PVPO NUMBER <b>2006 00053</b> FILING DATE <b>DECEMBER 29, 2005</b>	
		6. FAX (include area code) <b>(208) 327-9319</b>			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Corporation</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>DE</b>		9. DATE OF INCORPORATION <b>February 25, 1975</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)				F E E S R E C E I V E D FILING AND EXAMINATION FEES: \$ <b>4,382.00</b> DATE <b>12/29/05</b> CERTIFICATION FEE: \$ <b>768.00</b> DATE <b>3/06/2007</b>	
<b>Charleen Ortel</b> <b>Syngenta Seeds, Inc.</b> <b>600 N. Armstrong Pl.</b> <b>PO Box 4188</b> <b>Boise, ID 83711-4188</b>				<b>Kim Briggs</b> <b>6338 Highway 20-26</b> <b>Nampa ID 83687</b>	
11. TELEPHONE (include area code) <b>(208) 327-7246 208-465-8522</b>		12. FAX (include area code) <b>(208) 327-9319 208-467-4559</b>		13. E-MAIL <b>charleen.ortel@syngenta.com Kim.Briggs@Syngenta.com</b>	
14. CROP KIND (Common Name) <b>Bean, Garden</b>		16. FAMILY NAME (Botanical) <b>Fabaceae</b>		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP <b>Phaseolus vulgaris L.</b>		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (if "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (if "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Statement that a Voucher Sample (4,000) viable untreated seeds or, for tuber propagated varieties, will be deposited and maintained in an approved public repository <b>25 seed sample</b> g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER 		SIGNATURE OF OWNER	
NAME (Please print or type) <b>Jess Wilson</b>		NAME (Please print or type)	
CAPACITY OR TITLE <b>Vice President</b>	DATE <b>12/21/2005</b>	CAPACITY OR TITLE <b>Vice President</b>	DATE <b>12/21/2005</b>

(See reverse for instructions and information collection burden statement)

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

#### ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;  
(2) the details of subsequent stages of selection and multiplication;  
(3) evidence of uniformity and stability; and  
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

**23. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

USA March 2004 - frozen bean processing trial

**24. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

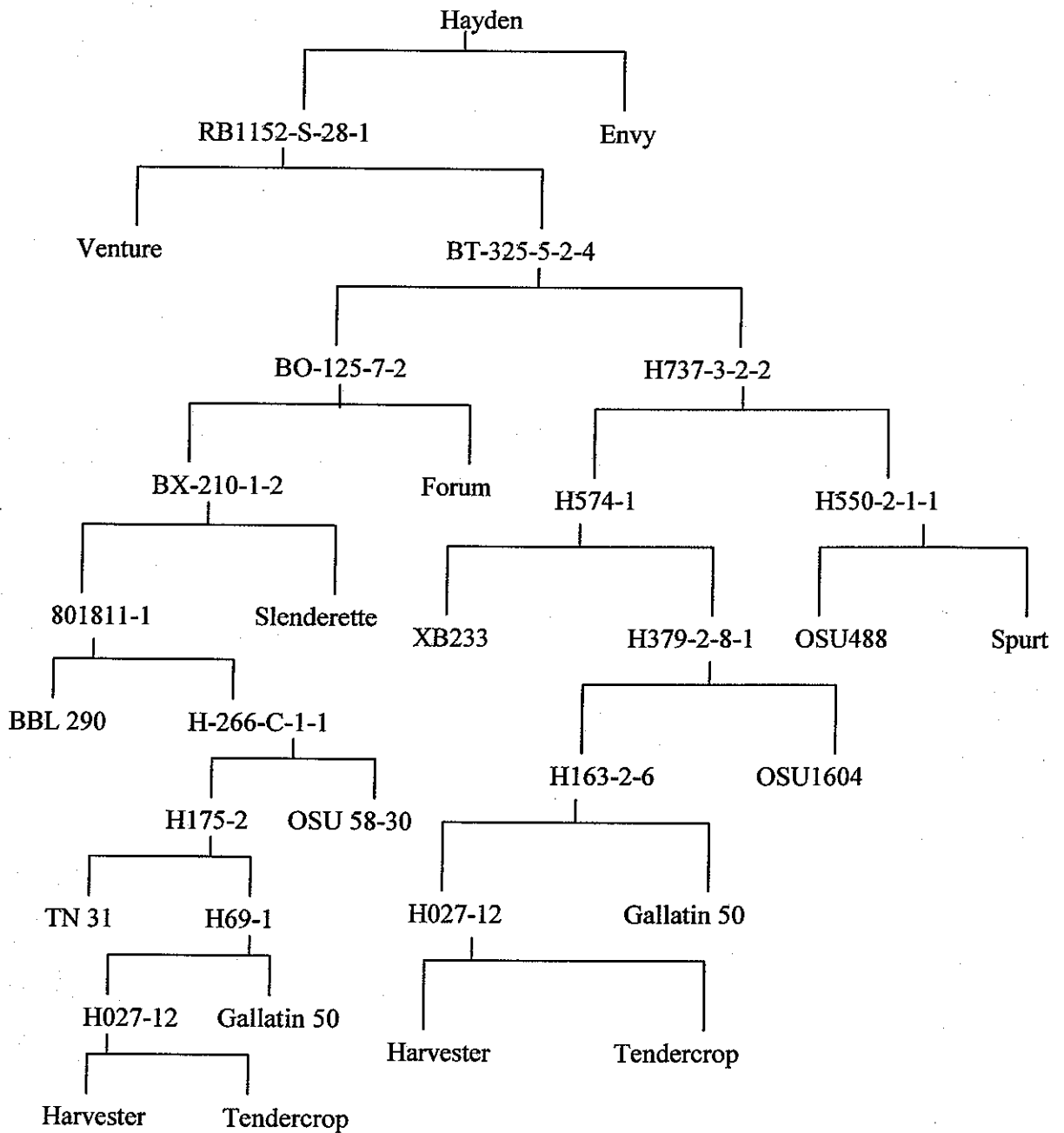
**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A  
Origin and Breeding History  
'Hayden'



'Hayden' originated from a hand pollinated cross between Syngenta Seeds, Inc. breeding line RB1152-S-28-1 and Ferry Morse line Envy. Venture, BT-325-5-2-4, BO-125-7-2, H737-3-2-2, BX-210-1-2, H574-1, H550-2-1-1, 801811-1, H379-2-8-1, BBL 290, H-266-C-1-1, H 163-2-6, H175-2, TN 31, H69-1, H027-12, Gallatin 50, are Syngenta Seeds, Inc. breeding lines. OSU488, OSU1604, OSU58-30 are breeding lines from Oregon State University. Spurt and Harvester are commercial varieties and XB233 is a experimental variety from Seminis Seed Company. Slenderette variety is from Charter Seed Company. Tendercrop is a USDA variety.

Mass selection breeding method was followed during F2 and F3 to accumulate the traits of heat tolerance and yield. Selection by pedigree method for the traits of maturity, 5 sieve diameter and medium green color was applied in F4 and F5. The F6 generation was bulk harvested to supply a seed source for further increases. 'Hayden' has been uniform and genetically stable for four generations of increases from the original F6. No variants were observed.

**Exhibit B**  
**Statement of Distinctness**  
**'Hayden'**

'Hayden' is a bush snap bean suitable for processing markets that most closely resembles the variety 'BBL 156'. 'Hayden' differs statistically from 'BBL 156' in the following traits.

1. 'Hayden' and 'BBL 156' are significantly different in spur length. In Nampa, Idaho, 'BBL 156' was 1 mm greater in spur length than 'Hayden' and 2 mm greater in spur length in Stanton, Minnesota. See Attachment B-1 a, thru f.
2. There was a significant difference in four-sieve pod length. 'BBL 156' pod length was 1 cm longer than 'Hayden' in Nampa, Idaho, and 2.9 cm longer in Stanton, Minnesota. See Attachment B-2 a, thru f.

All reported values for spur length and four-sieve pod length are based on average measurements.

Spur length data was collected from pods harvested in 2004 from each variety of 100 plant plots in Nampa, Idaho and Stanton, Minnesota.

Data for five-sieve pod length was collected from pods harvested in 2004 from each variety of 100 plant plots in Nampa, Idaho and Stanton, Minnesota. Random samples from a five-sieve lot were measured for pod length.

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**Exhibit B**  
**Statement of Distinctness**  
**'Hayden'**

Explanation of statistical analysis variables used in the following attachments

SL156ID = Spur Length (mm), BBL 156, Idaho  
SLSBID = Spur Length (mm), Hayden, Idaho  
SL156MN = Spur Length (mm), BBL 156, Minnesota  
SLSBMN = Spur Length (mm), Hayden, Minnesota

SV4PL156ID = Four-Sieve Pod Length (cm), BBL 156, Idaho  
SV4PLSBID = Four-Sieve Pod Length (cm), Hayden, Idaho  
SV4PL156MN = Four-Sieve Pod Length (cm), BBL 156, Minnesota  
SV4PLSBMN = Four-Sieve Pod Length (cm), Hayden, Minnesota

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**Descriptive Statistics**

Variable	N	Mean	SD	Minimum	Maximum
SL156ID	20	7.1000	1.0712	5.0000	9.0000
SLSBID	20	6.1500	0.8127	5.0000	7.0000

Attachment B-1a  
Spur Length (mm)  
Descriptive Statistics  
'BBL 156' vs. 'Hayden'  
Nampa, Idaho  
2004

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## One-Way AOV for: SL156ID SLSBID

Source	DF	SS	MS	F	P
Between	1	9.0250	9.02500	9.98	0.0031
Within	38	34.3500	0.90395		
Total	39	43.3750			

Grand Mean 6.6250 CV 14.35

	Chi-Sq	DF	P
Bartlett's Test of Equal Variances	1.39	1	0.2378
Cochran's Q	0.6346		
Largest Var / Smallest Var	1.7371		

Component of variance for between groups	0.40605
Effective cell size	20.0

Variable	Mean
SL156ID	7.1000
SLSBID	6.1500
Observations per Mean	20
Standard Error of a Mean	0.2126
Std Error (Diff of 2 Means)	0.3007

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Attachment B-1b  
 Spur Length (mm)  
 AOV  
 'BBL 156' vs. 'Hayden'  
 Nampa, Idaho  
 2004

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Statistix 8.0

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LSD All-Pairwise Comparisons Test

Variable	Mean	Homogeneous Groups
SL156ID	7.1000	A
SLSBID	6.1500	B

Alpha 0.05 Standard Error for Comparison 0.3007

Critical T Value 2.024 Critical Value for Comparison 0.6086

All 2 means are significantly different from one another.

Attachment B-1c  
Spur Length (mm)  
Comparison of Means  
'BBL 156' vs. 'Hayden'  
Nampa, Idaho  
2004

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Statistix 8.0

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**Descriptive Statistics**

Variable	N	Mean	SD	Minimum	Maximum
SL156MN	20	13.100	2.8636	9.0000	18.000
SLSBMN	20	11.150	2.3458	8.0000	17.000

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Attachment B-1d  
Spur Length (mm)  
Descriptive Statistics  
'BBL 156' vs. 'Hayden'  
Stanton, Minnesota  
2004

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One-Way AOV for: SL156MN SLSBMN

Source	DF	SS	MS	F	P
Between	1	38.025	38.0250	5.55	0.0237
Within	38	260.350	6.8513		
Total	39	298.375			

Grand Mean 12.125 CV 21.59

	Chi-Sq	DF	P
Bartlett's Test of Equal Variances	0.73	1	0.3924
Cochran's Q	0.5984		
Largest Var / Smallest Var	1.4902		

Component of variance for between groups	1.55868
Effective cell size	20.0

Variable	Mean
SL156MN	13.100
SLSBMN	11.150
Observations per Mean	20
Standard Error of a Mean	0.5853
Std Error (Diff of 2 Means)	0.8277

Attachment B-1e  
 Spur Length (mm)  
 AOV  
 'BBL 156' vs. 'Hayden'  
 Stanton, Minnesota  
 2004

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Statistix 8.0

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LSD All-Pairwise Comparisons Test

Variable	Mean	Homogeneous Groups
SL156MN	13.100	A
SLSBMN	11.150	B

Alpha 0.05 Standard Error for Comparison 0.8277  
Critical T Value 2.024 Critical Value for Comparison 1.6756  
All 2 means are significantly different from one another.

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Attachment B-1f  
Spur Length (mm)  
Comparison of Means  
'BBL 156' vs. 'Hayden'  
Stanton, Minnesota  
2004

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Statistix 8.0

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**Descriptive Statistics**

Variable	N	Mean	SD	Minimum	Maximum
SV4PL156ID	20	13.900	0.7881	13.000	15.000
SV4PLSBID	20	12.900	1.2096	11.000	15.000

Attachment B-2a  
Four-Sieve Pod Length (cm)  
Descriptive Statistics  
'BBL 156' vs. 'Hayden'  
Nampa, Idaho  
2004

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Statistix 8.0

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One-Way AOV for: SV4PL156ID SV4PLSBID

Source	DF	SS	MS	F	P
Between	1	10.0000	10.0000	9.60	0.0037
Within	38	39.6000	1.0421		
Total	39	49.6000			

Grand Mean 13.400 CV 7.62

	Chi-Sq	DF	P
Bartlett's Test of Equal Variances	3.30	1	0.0693
Cochran's Q	0.7020		
Largest Var / Smallest Var	2.3559		

Component of variance for between groups	0.44789
Effective cell size	20.0

Variable	Mean
SV4PL156ID	13.900
SV4PLSBID	12.900
Observations per Mean	20
Standard Error of a Mean	0.2283
Std Error (Diff of 2 Means)	0.3228

Attachment B-2b  
 Four-Sieve Pod Length (cm)  
 AOV  
 'BBL 156' vs. 'Hayden'  
 Nampa, Idaho  
 2004

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Statistix 8.0

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LSD All-Pairwise Comparisons Test

Variable	Mean	Homogeneous Groups
SV4PL156ID	13.900	A
SV4PLSBID	12.900	B

Alpha	0.05	Standard Error for Comparison	0.3228
Critical T Value	2.024	Critical Value for Comparison	0.6535
All 2 means are significantly different from one another.			

Attachment B-2c  
Four-Sieve Pod Length (cm)  
Comparison of Means  
'BBL 156' vs. 'Hayden'  
Nampa, Idaho  
2004

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Statistix 8.0

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**Descriptive Statistics**

Variable	N	Mean	SD	Minimum	Maximum
SV4PL156MN	20	14.600	0.8208	13.000	16.000
SV4PLSBMN	20	11.750	1.0699	10.000	14.000

Attachment B-2d  
Four-Sieve Pod Length (cm)  
Descriptive Statistics  
'BBL 156' vs. 'Hayden'  
Stanton, Minnesota  
2004

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Statistix 8.0

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One-Way AOV for: SV4PL156MN SV4PLSBMN

Source	DF	SS	MS	F	P
Between	1	81.225	81.2250	89.3	0.0000
Within	38	34.550	0.9092		
Total	39	115.775			

Grand Mean 13.175 CV 7.24

	Chi-Sq	DF	P
Bartlett's Test of Equal Variances	1.29	1	0.2568
Cochran's Q	0.6295		
Largest Var / Smallest Var	1.6992		

Component of variance for between groups	4.01579
Effective cell size	20.0

Variable	Mean
SV4PL156MN	14.600
SV4PLSBMN	11.750
Observations per Mean	20
Standard Error of a Mean	0.2132
Std Error (Diff of 2 Means)	0.3015

Attachment B-2e  
 Four-Sieve Pod Length (cm)  
 AOV  
 'BBL 156' vs. 'Hayden'  
 Stanton, Minnesota  
 2004

200600053

Statistix 8.0

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LSD All-Pairwise Comparisons Test

Variable	Mean	Homogeneous Groups
SV4PL156MN	14.600	A
SV4PLSBMN	11.750	B

Alpha 0.05 Standard Error for Comparison 0.3015  
 Critical T Value 2.024 Critical Value for Comparison 0.6104  
 All 2 means are significantly different from one another.

Attachment B-2f  
 Four-Sieve Pod Length (cm)  
 Comparison of Means  
 'BBL 156' vs. 'Hayden'  
 Stanton, Minnesota  
 2004

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U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY  
Garden Bean (*Phaseolus vulgaris* L.)

NAME OF APPLICANT(S) Syngenta Seeds, Inc	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME Hayden
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) 600 N. Armstrong Place Boise, ID 83704		PIVPO NUMBER 200600053

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., 0 9 9 or 0 9 ) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties centered in the same trial. Measured data should be for SPACED PLANTS. Ranges should also be given. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: \_\_\_\_\_  
Please answer all questions for your variety; lack of response may delay progress of your application.

1. TYPE:

1 = Garden      2 = Flageolet      3 = Romano

2. MARKET MATURITY:

5 2 Days to Edible Pods

XX XX XX X Heat Units to Edible Pods

0 2 Number of Days Earlier Than

Same As

XX X Number of Days Later Than

8  
6  
X

Comparison Variety

Not later than

Comparison varieties.

Comparison Varieties

1 = Tender crop  
3 = Gold rush  
5 = Gitana  
7 = Bush Blue Lake 290  
8 = Other (Specify Below)

2 = Kentucky Wonder  
4 = Slenderette  
6 = Provider

BBL 156

3. PLANT:

0 6 cm Spacing Between Plants in a Row

1

Habit

1 = Determinate  
2 = Indeterminate, Erect Stem and Branches  
3 = Indeterminate with Weak and Prostrate Stem and Branches  
4 = Indeterminate Climbing Habit with Weak, Long, and Twisted Stem and Branches

4 8 cm Height

0 3 cm Shorter Than

Same Height As

0 4 cm Taller Than

4  
6  
8

Comparison Variety

Use Comparison Varieties from Section 2

## 3. PLANT: (continued)

200600053

cm Spread

cm Narrower Than

☒

Same Width As

cm Wider Than

Comparison Variety

Use Comparison Varieties from Section 2

Pod Position: 1 = Low 2 = High 3 = Scattered

Bush Form (Illustrated Below)



1 = Spherical Bush Form



2 = Stem Bush Form



3 = Wide Bush Form



4 = High Bush Form

5 = Other (Specify) \_\_\_\_\_

## 4. LEAVES:

Surface:

1 = Dull

2 = Glossy

3 = Indeterminate

Size:

1 = Small (Gitana)

2 = Medium

3 = Large (Tender Crop)

Color:

1 = Light Green (as Light or Lighter than Gold Rush)

2 = Medium Green

3 = Dark Green (as Dark or Darker than Bush Blue Lake 290)

## 5. ANTHOCYANIN PIGMENT:

(1 = Absent

2 = Present)

Flowers

Stems

Pods

Seeds

Leaves

Petioles

Peduncles

Nodes

## 6. FLOWER COLOR AND DAYS TO BLOOM:

Color of Standard

Color of Wings

Color of Keel

Days to 50% Bloom

## Flower Color Choices

1 = White 2 = Cream

3 = Pink 4 = Lilac

5 = Purple 6 = Blue

7 = Other (Specify) \_\_\_\_\_

## 7. PODS (Edible Maturity):

Exterior Color:  
(Fresh)

1 = Light Green (as Light or Lighter than Provider)

2 = Medium Green

3 = Dark Green (as Dark or Darker than Bush Blue Lake 290)

4 = Yellow (Gold Rush)

5 = Green-red Variegated (Horticultural)

6 = Other (Specify) \_\_\_\_\_

Processed Pods (Exterior Color):

1 = Light (Tender Crop)

2 = Dark (Bush Blue Lake 290)

Dry Pod Color:

1 = Buckskin (Sprite)

2 = Green, Persistent Chlorophyll (Hystyle)

20

## 7. PODS (continued):

- 3 Cross Section Pod Shape: 1 = Flat 2 = Heart (Pear) 3 = Round 4 = Figure Eight 200600053
- 1 Crease Back: 1 = Present 2 = Absent
- 2 Pubescence: 1 = None (Slenderette) 2 = Sparse 3 = Considerable (Provider or Sprite)
- 2 Constriction (Interlocular Cavitation): 1 = None 2 = Slight 3 = Deep
- 0 9 mm Spur Length
- 1 Fiber: 1 = None (Bush Blue Lake 290) 2 = Sparse 3 = Considerable (Sprite)
- 5 Number of Seeds per Pod
- 2 Suture String: 1 = Present 2 = Absent
- 2 Seed Development: 1 = Slow (Bush Blue Lake 290) 2 = Medium 3 = Fast (Provider)
- 1 Machine Harvest: 1 = Adapted 2 = Not Adapted

Percent sieve size distribution at optimum maturity for not-flat pods




4.75 to 5.76mm	5.76 to 7.34mm	7.34 to 8.34mm	8.34 to 9.53mm	9.53 to 10.72 mm	>10.72mm
3 %	3 %	2 %	15 %	44 %	33 %

3 Sieve	<input type="text"/>	cm Length	<input type="text"/>	mm width	<input type="text"/>	Total mm Thickness
4 Sieve	<input type="text"/>	cm Length	<input type="text"/>	mm width	<input type="text"/>	Total mm Thickness
5 Sieve	<input type="text"/>	cm Length	<input type="text"/>	mm width	<input type="text"/>	Total mm Thickness
6 Sieve	<input type="text"/>	cm Length	<input type="text"/>	mm width	<input type="text"/>	Total mm Thickness

## 8. SEED COLOR:

- 3 Seed Coat Luster: 1 = Shiny 2 = Dull 3 = Semi-Shiny 4 = Variable
- 1 Seed Coat: 1 = Monochrome 2 = Polychrome
- 0 1 Primary Color: 1 = White 2 = Yellow 3 = Buff 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple  
9 = Blue 10 = Black 11 = Other
- XX Secondary Color: 1 = White 2 = Yellow 3 = Buff 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple  
9 = Blue 10 = Black 11 = Other
- 1 Seed Coat Pattern: 1 = Solid 1 = Splashed 3 = Mottled 4 = Striped 5 = Flecked 6 = Dotted
- 2 Hilum Ring: 1 = Absent 2 = Present
- 0 4 Hilum Ring Color: 1 = White 2 = Yellow 3 = Buff 4 = Tan 5 = Brown 6 = Pink 7 = Red 8 = Purple  
9 = Blue 10 = Black 11 = Other

## 9. SEED SHAPE AND SIZE:

- 1 Hilum View:
- 


- 1 = Elliptical      2 = Oval      3 = Round
- 2 Cross Section: 1 = Elliptical 2 = Oval 3 = Cordate 4 = Round

## 9. SEED SHAPE AND SIZE: (continued)

3

Side View:



1 = Oval to Oblong



2 = Round



3 = Reniform

200600053

2 8

gm/100 Seeds

0 1

gm/100 Seeds Lighter Than

0 8

gm/100 Seeds Heavier Than

8

X

5

Comparison Variety

## 10. DISEASE RESISTANCE: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant

0

Anthracnose (*Colletotrichum lindemuthianum*)☐

Race Alpha

☐

Race Beta

☐

Race Gamma

☐

Race Delta

☐

Race Epsilon

☐

Race Lambda

☐

Race Kappa

☐

Specify Race \_\_\_\_\_

0

Bean Rust (*Uromyces appendiculatus*)☐

Race 38

☐

Race 39

☐

Race 40

☐

Race 44

☐

Race 45

☐

Race 46

☐

Race 49

☐

Race 50

☐

Race 51

☐

Race 52

☐

Race 54

☐

Race 56

☐

Race 59

☐

Specify Race \_\_\_\_\_

0

Powdery Mildew (*Erysiphe polygoni*)

0

Fusarium Root Rot (*Fusarium solani* f. sp. *phaseoli*)

0

Pythium Root Rot (*Pythium* spp.)

0

Aphanomyces Root Rot (*Aphanomyces euteiches*)

0

Rhizoctonia Root Rot (*Rhizoctonia solani*)

0

Pythium Blight or Aerial Pythium (*Pythium ultimum*)

0

Angular Leaf Spot (*Isariopsis griseola*)

0

Bacterial Wilt (*Corynebacterium flaccumfaciens* subsp. *flaccumfaciens*)

0

Bacterial Brown Spot (*Pseudomonas syringae* pv. *syringae*)

0

Common Bacterial Blight (*Xanthomonas campestris* pv. *phaseoli*)

0

Halo Blight (*Pseudomonas syringae* pv. *phaseolicola*)☐

Race 1

☐

Race 2

0

Clover Yellow Vein Virus (CYVV)

0

Bean Common Mosaic Virus (BCMV)

☐

BV1

☐

NY15

☐

NL2

☐

NL3

☐

NL4

☐

NL8

☐

Florida

☐

Idaho

☐

Mexican

☐

Western

☐

Type

☒Other (Specify) I gene

0

Yellow Bean Mosaic Virus (BYMV)

0

Curly Top Virus (CTV)

0

Other (Specify Disease and Race or Strain) \_\_\_\_\_

22

11. INSECT RESISTANCE: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant

☐

Aphid

☐

Root Knot Nematode

☐

Leafhopper

☐

Seed Corn Maggot

☐

Lygus

☐

Thrips

☐

Pod Borer

☐

Weevils

☐

Other (Specify) \_\_\_\_\_

200600053

12. PHYSIOLOGICAL RESISTANCE: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant

☐

Heat

☐

Cold

☐

Draught

☐

Air Pollution

☐

Ozone

☐

Other (Specify) \_\_\_\_\_

13. COMMENTS:

23



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  Syngenta Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME  Hayden
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  600 North Armstrong Place Boise, ID 83704	5. TELEPHONE (Include area code)  208-465-8522	6. FAX (Include area code)  208-467-4559
	7. PVPO NUMBER  200600053	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

Same as on original application.

Garden Bean, Hayden, was bred and developed by plant breeders employed by Syngenta Seeds. By agreement between the employee and Syngenta Seeds, all rights to any invention, discovery or development made by the employee while employed by Syngenta Seeds were assigned to Syngenta Seeds, with no rights retained by the employee

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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## EXHIBIT F

NAME OF OWNER (S) Syngenta Seeds, Inc.	600 North Armstrong Place Boise, ID 83704 <i>USA</i>	Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION
NAME OF OWNER REPRESENTATIVE (S) Kim Briggs			VARIETY NAME Hayden
	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 6338 Highway 20-26 Nampa, ID 83687		FOR OFFICIAL USE ONLY
			PVPO NUMBER <i>200600053</i>

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

*Kim Briggs*  
Signature

*02-14-2007*  
Date

*25*